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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,563	10/09/2003	Der-Zheng Liu	REAP0020USA	2562
27765	7590	02/07/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			LE, NHAN T	
			ART UNIT	PAPER NUMBER
			2685	

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/605,563	Applicant(s) LIU ET AL.	
	Examiner Nhan T. Le	Art Unit 2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 2-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/09/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Patel et al (US 6,480,528) in view of Chang et al (US 2004/0146091).

As to claim 1, Patel teaches a method for automatic gain control (AGC) in a receiver of an antenna system comprising a plurality of modules having a receiver antenna for substantially simultaneously receiving a plurality of signals via a single frequency band, the method comprising: amplifying the plurality of received signals with at least an amplifier (see fig. 2, numbers 224a, 224b, 224c, col. 4, lines 56-67, col. 5, lines 1-8); generating a plurality of time domain samples of the amplified signals with at least an analog-to-digital converter (ADC) connected to the amplifier (see fig. 2, numbers 230a, 230b, 230c, col. 4, lines 56-67, col. 5, lines 1-8); determining at least a candidate power according to root-mean-square (RMS) powers of a group of symbols received at the receiver antennas with a processor connected to the ADC (see col. 6, lines 8-46). Patel fails to teach setting the gain of the amplifier according to a selected candidate power with the processor. Chang teaches setting the gain of the amplifier according to a selected candidate power with the processor (see fig. 3, numbers 24, 30, paragraph 0017). Therefore, it would have been obvious to one of ordinary skill in the

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art at the time the invention was made to provide the teaching of Chang into the system of Patel in order to eliminate channel gain variations which would affect the subsequent digital signal processing (as suggested by Chang paragraph 0017).

As to claim 18, the combination of Patel and Chang teaches wherein the set gain is a target power divided by the candidate power (see Chang paragraph 0017).

As to claim 19, the combination of Patel and Chang teaches wherein the symbols are IEEE 802.11 symbols of the received signals (see Chang paragraph 0005).

Allowable Subject Matter

Claims 2-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 2, the applied reference fails to teach wherein the received RMS power for one antenna is determined as the square root of the averaged product of each received symbol and its complex conjugate for all symbols of the first group as cited in the claim.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lin et al (US 20040120422) teaches QAM receiver having joint gain carrier recovery and equalization adaptation system.

Haapoja (US 20030045250) teaches method and apparatus for detecting power levels of varying envelope signals.


Sutardja (US 5,831,456) teaches apparatus and method for transient suppression in synchronous data detection systems.

Guenther et al (US 6,097,755) teaches time domain reflectometer having optimal interrogating pulses.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Le whose telephone number is 571-272-7892. The examiner can normally be reached on 08:00-05:00 (Mon-Fri).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nhan Le


2-1-2006

NGUYENT.VO
PRIMARY EXAMINER